



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/809,914  | 03/26/2004  | Alan D. Kathman      | 280/096             | 6757             |
| 7590  | 03/07/2006  |                      | EXAMINER            |                  |
| DIGITAL OPTICS CORPORATION.<br>9815 David Taylor Drive<br>Charlotte, NC 28262 |             |                      | KIANNI, KAVEH C     |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2883                |                  |

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/809,914             | KATHMAN ET AL.      |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Kianni C. Kaveh        | 2883                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

- 1) Responsive to communication(s) filed on 14 December 2005.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

- 4) Claim(s) 1-20 is/are pending in the application.
  - 4a) Of the above claim(s) 18-20 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-11 and 13-17 is/are rejected.
- 7) Claim(s) 12 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 26 March 2004 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5.
- 4) Interview-Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

- Applicant's election without traverse of claims in a paper submitted on is acknowledged. The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 7, 8 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitations 'the conductive structure' in 1<sup>s</sup> line. There is insufficient antecedent basis for this limitation in the claim. Correction is required.

Claim 15 recites the limitations 'the at least two substrates' and also 'the at least two substrate' in lines 1-2. There is insufficient antecedent basis for these limitations in the claim. Correction is required. This limitation might be allowable if appropriate corrections are made.

Claim 4, is ambiguous as what the Applicant means with the phrase 'flush', since in the specification such term is used in conjunction with spacer and mount substrate as being 'by flush..'. Correction is required.

Claim 7 is ambiguous since it is an incomplete limitation. Correction is required.

### ***Allowable Subject Matter***

Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 12 is allowable because the prior art of record, taken alone or in combination, fails to disclose or render obvious above the sealer substrate, an isolator stack including first and second polarizers and a Faraday rotator sandwiched between the first and second polarizers in combination with the rest of the limitations of the base claim.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the

examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-11 and 13-14 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jian (US 2003/0002809; also in analogous reference US 6981804).

Regarding claim Jian teaches an optical apparatus, comprising: a mount substrate (see at least figures 11 and/or 3, item substrate as 1113); an optoelectronic device 1161/805 (see also parag. 0088 and 0092) on the mount substrate 1113; a spacer substrate 211; sealer layer/covering material (see Parag. 0094); the mount substrate, the spacer substrate and the sealer ring(s)/covering material being vertically stacked and hermetically sealing the optoelectronic device (shown in at least fig. 7-8 and 13, items optoelectronic element with layers spacer and sealer/protector such as 1354); and external electrical contact for the optoelectronic device provided outside the sealing (shown in at least fig. 20/13, item electrical contact such as 2051 and see at least parag. 0143 and 0205).

However, Jian does not specifically teach wherein the above sealer layer/covering-material is a sealer substrate. Nevertheless, Jian states that a sealant layer/protective layer 154 is provided as protection of the apparatus elements, see also parag. 0142, as well as sealants can be provided as ring(s) in between layers the is a protective layer and/or also sealant material can be provided to cover the apparatus for protection, see also at least 0198. Thus, it is obvious/well-known to those of ordinary skill in the art

when the invention was made that a protective covering such as solder/melting-transparent-glue provided as a layer to protect other layers/substrates is/known-as a sealer substrate, since such layer would provide protection for the sensitive, such as MEMS, components (see p. 0013).

Regarding claims 2-11, 13-14 and 16-17, Jian further teaches wherein an interior surface of the spacer substrate is angled and has a reflective material thereon (see fig. 6, item 671); wherein the electrical contact includes a metalized trench (see item 764); wherein the mount substrate and the spacer substrate are flush (shown in at least fig. 6, analogous to applicant's description of flush in the specification); a ledge formed by differing widths between the mount substrate and the spacer substrate, the metalized trenches being in the ledge, the electrical contact for the optoelectronic device being on the ledge (shown in at least fig. 17-19, items ledge with different widths, metalized trenches); a ledge formed by differing widths between the mount substrate and the spacer substrate (shown in at least fig. 17-19, items ledge with different widths, metalized trenches); wherein the electrical contact further comprises: a conductive via on a bottom surface of the mount substrate (see item 764); wherein the conductive structure is a solder ball (see p. 0192); further comprising a passive optical element formed on a surface of the sealer substrate (see at least items) filter, mirror, lens such as 221/222/671/673); wherein electrical contact further comprises a conductive material on at least two non-parallel surfaces of the mount substrate (see items 763 and 764); above the sealer substrate, an optical block having a passive optical element on at least one surface thereof (see at least items) filter, mirror, lens

such as 221/222/671/673); above the sealer substrate, another spacer substrate (shown in at least fig. 14, items such as 21,211 and 201); wherein at least two of the mount substrate, the spacer substrate and the sealer substrate are of materials with approximately same coefficients of thermal expansion (see at least p. 0049, wherein glass material for different layers having the approximately same coefficients of thermal expansion); on a terminal surface of the optical apparatus, a mating feature for mating the optical apparatus with another structure (see at least fig. 14, item 241/242 and at least p. 0149); wherein the another structure is a ferrule 732.

#### ***Citation of Relevant Prior Art***

Prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In accordance with MPEP 707.05 the following references are pertinent in rejection of this application since they provide substantially the same information disclosure as this patent does. These references are:

Anthony et al. 6606011 ; 6509807

Heller et al. 20030162214

US 20020068373 A1 Lo, Yu-Hwa et al.

US 6597713 B2 Ouchi; Toshihiko

US 6184066 B1 Chino; Toyoji et al.

US 6104690 A Feldman; Michael R. et al.

US 4873566 A Hokanson; John L. et al.

These references are cited herein to show the relevance of the apparatus/methods taught within these references as prior art.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Cyrus Kianni whose telephone number is (571) 272-2417.

The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (571) 272-2415.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 872-9306 (for formal communications intended for entry)

**or:**

Hand delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.

March 2, 2006



KAVEH KIANNI  
PRIMARY EXAMINER